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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/613,253

07/03/2003

Pieter G. Einthoven

02-0889/011563(BOE

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03/06/2006

EXAMINER

TO, TUAN C

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ART UNIT

PAPER NUMBER

3663

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/613,253	EINTHOVEN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tuan C. To	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-69 is/are pending in the application.
- 4a) Of the above claim(s) 7, 10, 13, 14, 17, 19, 20, 22-45, and 55-69 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21 and 46-54 is/are allowed.
- 6) ☒ Claim(s) 1-3, 8, 9, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 4-6, 15, 16, and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

Applicant's election without traverse of claims 1-6, 8, 9, 11, 12, 15, 16, 18, 21, and 46-50, and 52-54 in the reply filed on 12/16/2005 is acknowledged.

#### ***Claim Objections***

Claims 1-6, 8, 9, 11, 12, 15, 16, and 18 are objected to because of the following informalities: in claim 1, the applicant recited "maintenance of said vertical state" rather than "maintaining said vertical state". Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claim 1-3, 9, 11, and 12 are rejected under 35 U.S.C. 102 (b) as being anticipated by Rollet et al. (US 5863012A).

With respect to claims 1, 9, and 11, The U.S. reference to Rollet et al. disclose a cyclic stick system that give a helicopter speed stability, wherein the forces is applied on the cyclic stick so that to accelerate (or decelerate) and maintain a new higher (or lower) speed (Rollet et al., column 2, lines 58-64). Furthermore the cyclic stick Mcy (see Rollet et al., figure 1) sends a signal a control signal to the flight control device CDV via a link

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e3. This solves the vertical state of the helicopter is controlled via the flight control device CDV. It concludes that Rollet et al. inherently discloses that constant vertical state is controlled.

Rollet et al. disclose a cyclic stick system for a helicopter, in which the cyclic stick is pushed or pulled at forces so that to accelerate or decelerate and then maintain a new higher or lower speed. Thus, Rollet et al. inherently disclose the minimum and maximum of the inceptor position limits in order to accelerate or to decelerate the aircraft.

With regard to claim 2, Rollet et al. teaches "acceleration and deceleration limits are pitch and roll attitude limits" (Rollet et al., abstract).

With regard to claim 3, Rollet et al disclose that cyclic stick system for a helicopter, in which cyclic stick is pushed or pulled at forces so that to accelerate or decelerate and then maintain a new higher or lower speed. Thus, Rollet et al. inherently disclose the prediction of increasing or decreasing in pitch and roll attitude limits.

With regard to claim 12, as taught in Rollet et al, the cyclic stick system is provided to maintain the stability for the helicopter in vertical in terms of forces on the cyclic stick so that accelerate (or decelerate) and maintain a new higher (or lower) speed. Thus, Rollet et al. inherently disclose constant vertical altitude, constant vertical velocity, and constant flight path angle so that the stability of the helicopter in vertical is maintained.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rollet et al. (US 5863012A), and further in view of Tomio et al. (US 6334592B1).

With regard to claim 8, the Rollet et al, as represented herein, addresses the limitations of claim 1 except for said limits that are provided to a software limiting system.

The reference to Tomio et al. has been cited as teaching a flight control apparatus for helicopter that includes the teachings of SAS (stability augmentation system) as to be identical to the software limiting system as claimed by the applicant.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Rollet et al, and Tomio et al. in order to improve the control characteristics of the helicopter and reduce the cross coupling between the longitudinal and lateral axes.

#### ***Allowable Subject Matter***

The examiner has realized the prior art has failed to disclose at least the limitations as recited in claim 21 and 46. Thus, claims 21, 46-54 are set in a condition of allowance.

Claims 4-6, 15, 16, and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

Applicant's arguments with respect to claims 1-3, 8, 9, 11, and 12 have been considered but are moot in view of the new ground(s) of rejection.

The reference to Rollet et al. has been found read on at least the limitation of claim 1. The applicant argued in his response that Rollet et al. disclose  $V_{min}$  and

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Vmax but the applicant argued that Vmin and Vmax are not position limits nor are they related to position limits of the cyclic stick. It is not persuasive because, the stabilization can be maintained in the cyclic stick system of Rollet et al. when the aircraft speed is kept in the speed range (Rollet et al., column 3, lines 66 and 67).

It is important to note that Rollet al. inherently suggests the state limitation because the cyclic stick system, in which the CDV as a flight control device that control to accelerate (or decelerate) the helicopter and further maintain the helicopter at a new higher (or lower) speed (Rollet et al., column 2, lines 58-64).

### ***Conclusions***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan C To whose telephone number is (571) 272-6985. The examiner can normally be reached on from 8:00AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/tc

June 8, 2005

  
JACK KEITH  
SUPERVISORY PATENT EXAMINER

TC 3600

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